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## Electronic nicotine delivery systems in the hands of Hollywood

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Electronic nicotine delivery systems (ENDS) (colloquially called electronic cigarettes or e-cigarettes) have been advertised increasingly aggressively in the USA and other countries in the past 4–5 years.<sup>1</sup> These cigarette-shaped battery-powered devices heat a liquid solution containing various concentrations of nicotine, creating a vapour for inhalation. In recent months, ENDS have started to appear in popular entertainment through movies, television shows and on-air advocacy by Hollywood celebrities. On 7 January 2011, the *Los Angeles Times* noted that ENDS were used by movie star Johnny Depp in the recently released film *The Tourist*.<sup>2</sup> On 27 September 2010, star Katherine Heigl appeared on ‘The Late Show with David Letterman’, where both she and Mr Letterman used ENDS.<sup>2</sup> Ms Heigl stated that she was using the device to quit smoking. When Mr Letterman asked Ms Heigl whether she could get addicted to the device, she replied that she was addicted to the device but that ‘...it is not bad for you, so it’s a fun addiction’.<sup>3</sup> In addition to this television event, the appearance was repeated on the web on entertainment blogs and was featured on the device’s commercial website. The US TV talk show, ‘The Doctors’, featured ENDS among a list of top 10 health innovations of 2009.<sup>4</sup> On the show, the hosts, who are non-smoking actual medical doctors, ‘smoked’ ENDS. There was a report of ENDS being included in the gift bags for the attendees of the 2010 Grammy Awards<sup>5</sup> and, most recently, ENDS bedazzled with Swarovski crystals in gift bags were distributed to nominees at the 2011 Academy Awards.<sup>6,7</sup>

ENDS are being popularised without adequate independent research demonstrating their safety or efficacy for smoking cessation. A study conducted by the US Food and Drug Administration (FDA) evaluating the composition of ENDS nicotine solution found unlisted toxicants and nicotine concentrations inconsistent with the level advertised on the product.<sup>8</sup> The FDA issued warning letters to five ENDS distributors for various regulatory violations, including unsubstantiated claims and poor manufacturing practices.<sup>9</sup> Marketing claims vary among manufacturers and vendors, but the products are frequently promoted as a safe alternative to cigarettes and, in some instances, as smoking cessation aids. Neither the safety of the devices, nor their efficacy for quitting smoking, has been thoroughly scientifically evaluated. Three US states (California, Utah and New Jersey) prohibit the sale of ENDS to

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minors, and Oregon has reached settlements with two major ENDS manufacturers prohibiting the sale of the device. In addition, the US Air Force has included ENDS in its regulations governing tobacco use, which prohibits their use in the workplace.<sup>10</sup>

In the past, the tobacco industry has partnered with entertainment executives and celebrities to employ several strategies to promote their products in television, movies and popular culture, including cross promotion, product placement and systematic supply of free products to entertainment industry members.<sup>11,12</sup> It appears that the ENDS manufacturers are adopting similar tactics. Given the substantial research demonstrating the effect of viewing smoking in the movies on adolescent smoking initiation,<sup>13</sup> the addictive nature of nicotine and the lack of regulatory assurance of their quality or safety, it is important to keep ENDS, and other similar products, from being sensationalised through the use of celebrity promotion or product placement in movies or other entertainment media.

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